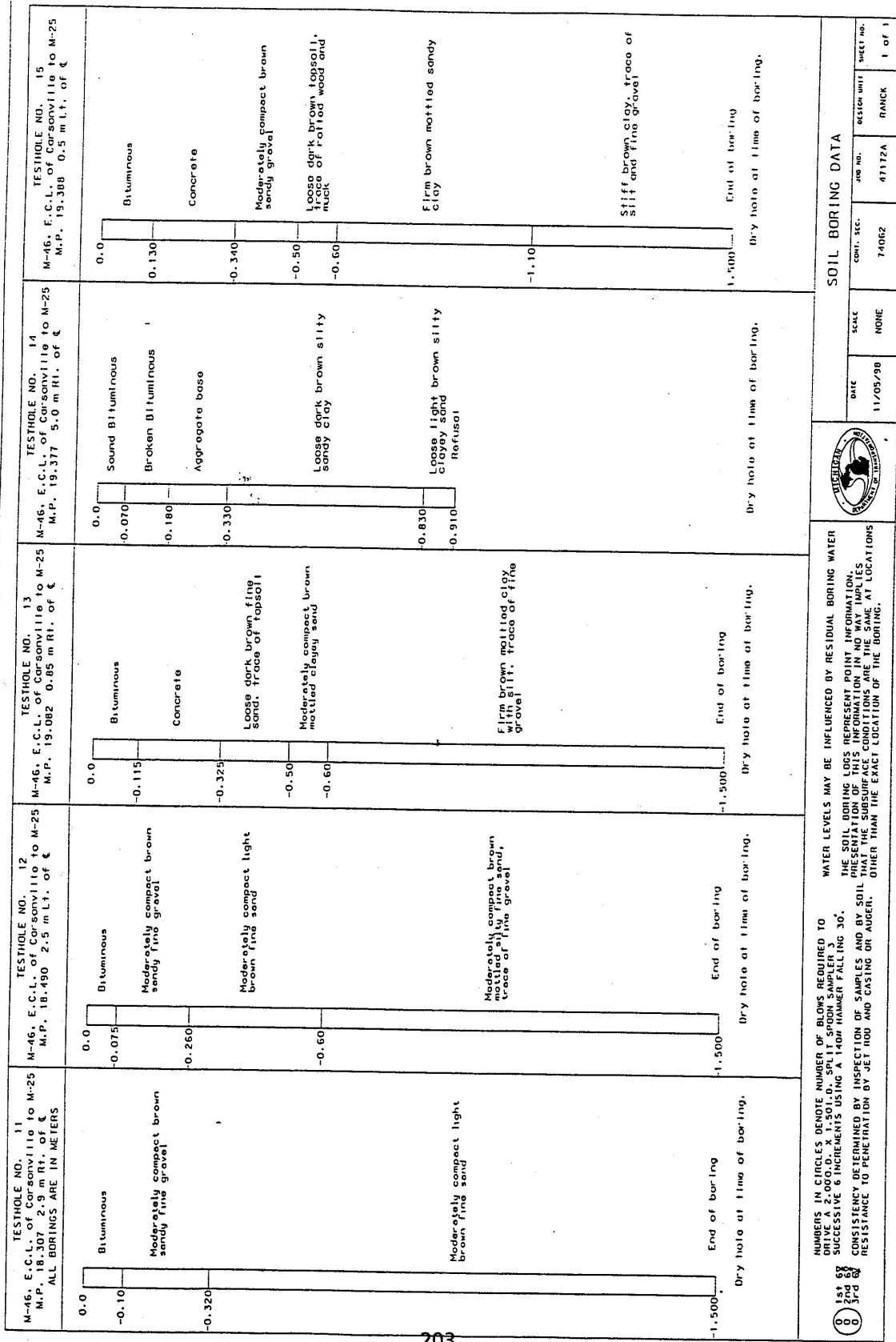


NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2,000-D. X 1,301-D. 3/4" IT SPOON SAMPLER 3" SUCCESSIVE 6 INCREMENTS USING A 140# HAMMER FALLING 30". PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND BY SOIL RESISTANCE TO PENETRATION BY JET ROD AND CASING OR AUGER. OTHER THAN THE EXACT LOCATION OF THE BORING.



# SOIL BORING DATA

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
11/05/98	NONE	74062	47172A	RANCK	1 of 1



TESTHOLE NO. 16 M-46, E.C.L. of Carsonville to M-25 M.P. 19.432 4.19 m L.I. of C ALL BORINGS ARE IN METERS	TESTHOLE NO. 17 M-46, E.C.L. of Carsonville to M-25 M.P. 19.472 of C	SOIL BORING DATA			
<p>0.0</p> <p>Sound Bituminous</p> <p>-0.130</p> <p>Aggregate base</p> <p>-0.350</p> <p>Black loose silty clayey sand</p> <p>-0.50</p> <p>Refusal (rock)</p> <p>Dry hole at time of boring.</p>	<p>0.0</p> <p>Bituminous</p> <p>-0.124</p> <p>Concrete</p> <p>-0.324</p> <p>Moderately compact brown sandy fine gravel</p> <p>-0.50</p> <p>Loose dark brown fine sand with topsoil and trace of rotted wood</p> <p>-0.60</p> <p>Loose black mucky sand with rotted wood</p> <p>-0.90</p> <p>Firm brown mottled silty clay, trace of fine gravel</p> <p>-1.20</p> <p>Firm brown clay with sand partings</p> <p>-1.500</p> <p>End of boring</p> <p>Dry hole at time of boring.</p>	<p>DATE 11/05/98</p> <p>SCALE NONE</p> <p>COUNT SEC. 74062</p> <p>JOB NO. 47172A</p> <p>SHEET NO. 1 OF 1</p>			



NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO PENETRATE 6 INCHES USING A 140# HAMMER FALLING 30".

WATER LEVELS MAY BE INDICATED BY MEANS OF BORING WATER

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT THE SURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND BY SOIL RESISTANCE TO PENETRATION BY JET ROD AND CASING OR AUGER.

1st 6"  
2nd 6"  
3rd 6"  
00

# **Bituminous Warranty Information**

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**CONTRACTOR QUALITY CONTROL (CQC) FOR  
PAVEMENT WARRANTY**

C&T:KJH

1 of 3

12-15-98

C&T:APPR:JTL:MF 12-15-98

**1. Introduction**

Except as modified herein, this work shall be in accordance with the 1996 Standard Specifications for Construction, Special Provisions, Supplemental Specifications and other documents referenced in this special provision. The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with current Department procedures contained in, but not limited to, the Michigan Construction Manual and the MDOT Quality Assurance Procedures Manual. The quality control system shall detail plans, procedures, and organization necessary to produce an end product that complies with the contract requirements. The system shall cover all warranty related construction operations under the control of the Contractor both on-site and off-site.

**2. Contractor Quality Control Plan**

Contractor Quality Control (CQC) shall be the means by which the Contractor ensures that the warranty related construction, including that done by subcontractors, fabricators, and suppliers, complies with the requirements of the contract. This applies only to those warranted items within this contract. The controls shall be adequate to cover all construction operations, including both on-site and off-site, and will be keyed to the proposed construction sequence.

The Engineer shall be allowed access to all work in progress and all phases of the ongoing CQC plan for the purpose of Assurance review and testing. Assurance reviews and testing will be used for the purpose of making independent checks on the reliability of the Contractor's testing and acceptance procedures in accordance with the CQC plan and not for determining the quality and acceptability of the materials and workmanship directly.

The CQC plan shall include, as a minimum, the following to cover on-site and off-site aspects of all construction operations under the control of the Contractor.

1. **CQC System Manager (CQCSM).**-The CQC plan shall identify one person as the CQCSM who shall be the sole contact with MDOT regarding quality control. The CQCSM shall be responsible for quality control on all construction phases of the project. The CQCSM must be on site during the active portion of the contract involving the warranty related items.
2. **Construction & Warranty.**-The Construction and Warranty portion of the CQC plan shall contain a listing of the procedures and records to be used to properly inspect and test the project in accordance with the contract. The construction portion of the CQC plan shall include, as a minimum, the following:
  - A) A list of work items covered by the warranty to be tested.
  - B) A list of standard test procedures (ASTM, AASHTO or MDOT).
  - C) Frequency of test.
  - D) Quantity represented by test and location of item on the project.
  - E) Method used to document that items have been tested and/or constructed to conform to project plans and specifications.
  - F) Procedure for handling any detected noncompliance with the CQC requirement.
  - G) Time frame for distribution of test results and project documentation.
  - H) Name and address of the testing facility(s) to be used.
3. **Approval of CQC Plan.**-Acceptance of the Contractor's CQC plan is required prior to start of the work items covered by the warranty. The Department will have five work days to review the Contractor's CQC Plan to determine acceptability. The start of the construction of the items of work covered by the warranty will not be allowed until the CQC Plan is accepted in writing by the Engineer. Delays due to the Contractor's inability to submit an acceptable CQC Plan shall not be a basis for an extension of time without liquidated damages.
4. **Changing the CQC Plan.**- If the Department determines after final approval of the CQC plan that the Contractor's performance on the project is unsatisfactory, the Department reserves the right to require the Contractor to make changes in its CQC plan at no additional cost to the department. The Contractor may be required to suspend all work operations until the plan is changed and approved.

After final approval of the CQC plan, the Contractor can not change the plan without prior written approval of the Engineer. Any requested changes must be done in writing.

5. **Measurement and Payment**

Contractor Quality Control, as specified in this Special Provision, will be included in the cost of the project.



MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**MODIFICATIONS TO SECTION 502  
OF THE 1996 STANDARD SPECIFICATIONS  
(BITUMINOUS PAVEMENT WARRANTY)**

C&T:MF

1 of 1

REVISED: 12-21-98  
C&T:APPR:MF:JTL 02-26-98

**a. Description.**-This special provision redefines all references to “Inspector” and/or “Engineer” within Sections 502 of the 1996 Standard Specifications for Construction to conform with the bituminous overly warranty and Contractor quality control provisions of this contract. The authority of the Engineer detailed in Subsection 104.01 shall not change in any way as a result of these modifications. These changes will not invalidate in any way the warranty provisions stated within this contract.

**b. Modification.**-All references to “Inspector” and/or “Engineer” within these specifications shall be deleted and replaced with “Contractor” for the items referenced in the Bituminous Overlay Pavement Warranty.

**c. Addition.**-The Contractor is hereby notified that “Contractor”, within the above specifications, will replace “Inspector” and/or “Engineer”. This portion of the Specification, formerly the primary responsibility of the Inspector or Engineer as defined in Division 1, shall become the initial responsibility of the Contractor, with the secondary responsibility of the Inspector or Engineer.

The Contractor’s additional responsibility will be to inform the Engineer of any actions taken by him as a result of the above changes.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**DOCUMENTATION OF BITUMINOUS CONSTRUCTION ITEMS  
(English)**

C&T:MF

1 of 4

REVISED: 06-15-99  
C&T:APPR:JTL:MLL 02-20-98

**a. Description.**-This special provision outlines the documentation that will be required from the Contractor to fulfill the contract requirements. This documentation is in addition to the requirements for the Contractor's Quality Control plan outlined within this proposal.

**b. Materials.**-None.

**c. Pre-Production Meeting.**-A pre-paving meeting between the Contractor and Engineer will be held prior to beginning work. The agenda for this meeting will include:

- - Review of the Contractor's detailed work schedule.
  - Review of the traffic control plan.
  - Review of the Contractor's Daily Report, and associated documentation to be submitted to project office.
  - Review of QC/QA requirements.

**c. Documentation.**-The Contractor shall provide the Engineer with a daily report including the following information:

- Control Section, Project Number, County, Route, Resident Engineer
- Date, Air Temperature, Weather (a.m., p.m.)
- Beginning and Ending Stations for the Day
- Length (ft), Width (ft), Area (ft<sup>2</sup>), tons of mixture placed, average yield for the day
- (#/syd), Yields for five (5) truckloads, Gallons of emulsion placed
- Traffic control setup, Checks of traffic control and any modifications or deficiencies corrected
- Any unique or different situations on the project
- Contractor's Signature

This is in addition to the documentation that is required for the Contractor's Quality Control plan as outlined in the **Manual for the Certification of "The Hot Mix Asphalt Plants"** and the special provision for Bituminous Mixture and Pavement Density Acceptance.

Items which are not under the warranty will require either certification or testing and proper documentation.

e.

**Traffic Control.**-Traffic control shall be in accordance with the specifications and special provisions in this contract.

**f. Measurement and Payment.**-There will be no payment for documentation. It is considered to be included in other items of contract work.

# CONTRACTOR'S DAILY REPORT

Contractor	Route	Weather	
		AM	PM
Subcontractor	County	Temperature	
		Low	High

<b>Federal Number</b>	<b>Control Section</b>	<b>Job Number</b>	<b>Project Engineer</b>
-----------------------	------------------------	-------------------	-------------------------

### CONTRACT ITEMS AS CONSTRUCTED

[illegible]

## MATERIALS USED

[illegible]

<b>Equipment/Number</b>							
<b>Preparer's Name</b>		<b>Preparer's Signature</b>		<b>Report Date</b>		<b>Day</b>	<b>Report No.</b>
<b>SKETCHES, COMPUTATIONS, REMARKS, ETC.</b>							

<b>TRAFFIC CONTROL DEVICES AND PLACEMENT</b> (Include modifications, staging, and lines checked)						
<b>YIELD CALCULATIONS</b>						
Load	Station-Station	Length	W	Ar ea	Net Weight	Yield
<b>DAILY TOTALS</b>						

<b>UNUSUAL CONDITIONS, ACCIDENTS OR INCIDENTS</b>

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**BITUMINOUS PAVEMENT WARRANTY ON M-46**

DES:SCB

1 of 12 12-10-98

C&amp;T:APPR:MF:JTL 12-16-98

**1.0 General.**

This special provision describes a materials and workmanship warranty. This warranty applies to the bituminous pavement surface from the east village limits of Carsonville to Goetze Road.

The pavement surface, as addressed by this special provision, includes the total thickness of bituminous material placed on the driving lanes and shoulders.

The warranty documents shall include the warranty form, initial acceptance form, warranty bond form along with this special provision.

This Special Provision shall not be construed as extending or otherwise affecting the claim process and statute of limitation applicable to the contract.

This Special Provision references the 1996 Standard Specifications for Construction.

**2.0 Warranty Bond.**

**Warranty Bond.** - The security, furnished by the contractor and the contractor's surety, guarantees that the pavement surface installed under the contract will be free of defects in materials and/or workmanship during the specified warranty period.

The warranty bond shall be a single term three (3) year warranty bond with an effective starting date of the Acceptance Date of Construction.

The contractor shall furnish a warranty bond for a period of three (3) years per above conditions in an amount equal to 25 percent of the contract value of the items listed below. The warranty period shall be three (3) years.

<u>Pay Item</u>		<u>Pay Unit</u>	Bituminous Mixture -
	5E3		ton
Bituminous Mixture - 4E3		ton	
Bituminous Mixture - 3E3		ton	

**3.0 Rights and Responsibilities of the Department.****The Department:**

- a. is responsible for monitoring the pavement, defined above in Section 1.0 during the warranty period and will provide the contractor copies of all written reports of the observed condition as it relates to the warranty requirements.
- b. is responsible for notifying the contractor, in writing, of any required corrective action as specified by the warranty.
- c. reserves the right to approve the date(s) requested by the contractor to perform corrective action as specified by the warranty.

- d.** reserves the right to approve all materials and methods used in the corrective action as specified by the warranty.
- e.** reserves the right to determine if corrective action performed by the contractor meets Department specifications.
- f.** reserves the right to perform, or have performed, routine maintenance during the warranty period. Any such routine maintenance will not relieve the contractor from meeting the warranty requirements of this Special Provision.
- g.** reserves the right, if the contractor is unable, to make immediate emergency repairs to the pavement to prevent an unsafe road condition as determined by the Department. The department will attempt to notify the contractor that action is required to address an unsafe condition. However, should the contractor be unable to comply with this requirement, to the Department's satisfaction and within the time frame required by the Department, the Department will perform, or have performed any emergency repairs deemed necessary. Any such emergency repairs undertaken will not relieve the contractor from meeting the warranty requirements of this Special Provision. Any costs associated with the emergency repairs will be paid by the contractor if it is determined the cause was from defective materials and/or workmanship.
- h.** shall document the condition of the pavement prior to emergency repairs.
- i.** is responsible for notifying the contractor, in writing, of any required joint field investigation that may result in corrective action.

#### **4.0 Responsibilities of the Contractor.**

##### **The Contractor:**

- a.** shall unconditionally warrant to the Department that the pavement shall be free of defects in materials and workmanship, as defined by the warranty requirements as set forth in this special provision, for the specified warranty period. This warranty and the Warranty Bond, shall be on forms furnished by the Department. These completed forms shall be submitted to the Department prior to award of contract.
- b.** is responsible for performing all corrective action; including but not limited to traffic control and restoring all associated pavement features, such as pavement marking, shoulders, and adjacent lanes, at no additional cost to the Department.
- c.** is responsible for replacing all temporary repairs, with Department approved materials and methods, resulting from the pavement being in noncompliance with the warranty requirements.
- d.** shall notify the Department and shall submit a written course of action proposing appropriate corrective measures for five (5) calendar days prior to commencement of any corrective action, unless this work requires immediate emergency repairs as determined by the Department.
- e.** shall maintain traffic, for corrective action, as approved by the Department.
- f.** shall complete all corrective action in a neat and uniform manner and shall meet the requirements specified in the contract.
- g.** is required to supply to the Department original documentation pursuant to subsection 107.10 of the 1996 Standard Specifications for Construction that all insurance required by the contract is in effect during the period(s) that any warranty work is being performed.
- h.** shall furnish to the Department, in addition to the regular performance and lien bond for the contract, supplemental performance and lien bonds covering any corrective action being performed. These supplemental bonds shall be furnished to the Engineer, using Department approved forms, prior to beginning any corrective action in the amount required by the Department to cover said corrective action and be in all respects satisfactory and acceptable to the Department.
- i.** shall make repairs to the pavement prior to conclusion of the warranty period or within such other time frame as agreed to by the Department and the contractor after receiving notification from the Department that required corrective action is necessary, unless the Department notifies the contractor that immediate emergency repairs are necessary to prevent an unsafe road condition, in which event the contractor shall make said emergency repairs within a time frame required by the Department.



- j. is responsible for all costs of all emergency repairs to the pavement deemed necessary by the Department to prevent an unsafe road condition.
- k. shall be liable during the warranty period in the same manner as the contractor is currently liable for construction related activities with the Department pursuant to the Department's 1996 Standard Specifications for Construction, including but not limited to subsections 103.06, 107.10 and 107.11 of said Standard Specifications. This liability shall arise and continue only during the period when the contractor is performing corrective action associated with the warranty. This liability is in addition to the contractor performing and/or paying for any of the required corrective action, and shall include liability for injuries and/or damages and any expenses resulting therefrom which are not attributable to normal wear and tear of traffic and weather, but which are due to defective materials, faulty workmanship, and to the operations of the contractor as set forth more fully in subsections 103.06, 107.10, and 107.11 of the 1996 Standard Specifications for Construction.

## **5.0 Initial Acceptance.**

**Acceptance Date of Construction.** - The date when the pavement surfaces described in Section 1.0 are completely constructed, accepted for traffic, and determined by the Department to be in compliance with the contract plans and specifications. This date will constitute initial acceptance and will be the start date for the warranty period. Generally, that portion of the proposed full-width or part-width roadway that fulfills the Accepted For Traffic criteria per Section 107.21 will qualify on this start date. Initial acceptance may occur on different dates for different parts of the pavement depending on varying acceptance for traffic dates or stage construction sequences as applicable to the maintaining traffic requirements for this contract.

For projects staged with future open to traffic dates on adjacent projects that are not a part of this contract, the acceptance date of construction will be the date that the pavement surfaces described in Section 1.0 are available for traffic as determined by the Engineer.

In addition, the Engineer may accept the pavement if the Department has not determined compliance with specifications within a six week period after the pavement is available for traffic.

At the completion of each portion of the roadway qualifying for acceptance for traffic, the Department and contractor shall review the completed portion for compliance with the contract plans and specifications. If the completed portion is determined by the Department to be in noncompliance, then the contractor shall repair and make good, at his own expense, any and all defects in materials or workmanship. When the completed portion is determined by the Department to be in compliance, the Department and the contractor shall document and execute the initial acceptance on a form furnished by the Department. The date on which this document is executed is the Acceptance Date of Construction. The Department will send a copy of this initial acceptance document to the contractor's Warranty Bond surety agent.

Acceptance of pavement surfaces by the Department that used material from penalized lots will not relieve the contractor of meeting the warranty requirements for the pavement surface.

## **6.0 Conflict Resolution Team.**

**Conflict Resolution Team (CRT).** - Shall be solely responsible for resolving disputes between the Department and the contractor regarding any noncompliance during the warranty period. The CRT will render a decision based on a majority vote.

The CRT will consist of five members:

- a. Two-selected, provided, and compensated by the Department.
- b. Two-selected, provided, and compensated by the contractor.
- c. One (third party) mutually selected by the Department and the contractor. Compensation and expenses for the third party member will be equally shared by the Department and the contractor.

Changes in the membership of the CRT will be allowed subject to approval by the Department and the contractor.

## **7.0 Warranty Requirements**

The contractor will warranty the pavement against defects in materials and/or workmanship. Two pavement condition parameters, surface distress and rutting will be monitored by the department to determine whether warranty action may be required.

Corrective action will be required when all three criteria listed below are met.

1. The specified threshold limit for a condition parameter is exceeded.
2. The specified minimum number of segments are exceeded.
3. A joint field investigation by the department and the contractor determines that the pavement condition parameter has been caused by defects in materials and/or workmanship. A forensic investigation, if necessary, may consist of pavement removal, reviewing initial project records, extensive pavement coring and/or laboratory analysis to determine the specific cause(s) and deterioration rates for the distress. The selection of the party to do a forensic investigation will be agreed to jointly by the Department and the contractor. All costs related to the forensic investigation will be shared proportionately, based on cause of condition, between the contractor and the Department. Any corrective action will also be shared proportionately, based on cause of condition, between the contractor and the Department.

### **Threshold Limits**

The condition parameters used to monitor the condition of the bituminous pavement during the warranty period will be surface distress features and rutting. The threshold limit for each parameter will be determined separately. Threshold limits are based on a pavement segment. A segment is defined as a 160 meter length of the driving lane and adjacent shoulder. The length is measured along the roadway centerline. If any threshold limit is exceeded on a segment, the segment will be counted toward the specified segment limit.

### **Surface Distress**

The distress types that will be used during the warranty period are defined as follows:

**Transverse Crack** - A crack , at least 1.5 meters in length, that is oriented primarily in the transverse direction versus the longitudinal direction. It can be either straight or irregular in direction.

**Longitudinal Crack** - A crack that extends primarily parallel to the pavement centerline and is at least 1.5 meters in length. It can exist anywhere in the driving lane; ie: at the pavement centerline joint, wheel path, center of lane, or lane/shoulder joint.

**Delamination** - A physical separation of the new pavement surface from the previous pavement surface. Delamination will be visually present as shoving, or the loss of the new surface course. Surface potholes, regardless of depth, will also be classified as delamination, if the condition was derived from delamination of the new surface course.

**Raveling** - Surface disintegration due to the loss of course or fine aggregate material that occurs over an area or in longitudinal 'strips'.

Flushing - Excess asphalt binder that occurs on the pavement surface that creates a shiny, reflective condition that becomes tacky to the touch at higher temperatures.

The following list indicates the threshold limit for each distress type that may exist at the end of the three year warranty period. The threshold limits apply to each segment. An area percentage should be calculated based on the total area of a segment.

<u>Distress Type</u>	<u>Threshold Limit</u>
Transverse Cracking	2 per segment **
Longitudinal Cracking	25% - segment length **
Delamination	25% - segment length
Raveling	20% - segment area
Flushing	5% - segment area

\*\* A crack in the new surface will be excluded if it is determined to be 'reflective'.

### **Rutting**

The pavement surface will be inspected for rutting on all driving lanes through the warranty period and before the end of the warranty period or as solely required by the Department should it determine there are safety concerns that require immediate corrective action. The Department reserves the right to determine the frequency and intensity of individual measurements to quantify rutting for a particular 160m segment.

The measurement procedure shall consist of extending a 'straightedge' across the pavement surface perpendicular to the direction of travel. The straightedge shall contact the surface on at least two bearing points with one located on either side of the rut. The straightedge is properly located when sliding the straightedge along its axis does not change the location of the contact points. Rut depth is defined as the greatest perpendicular distance from the bottom of the straightedge to the pavement surface.

The average rut depth shall not exceed 7mm for any 160 meter segment at anytime during the project's three year warranty period. Any driving lane is subject to the 7 mm limitation, whether there is rutting present in one or both wheel paths.

### **Corrective Action - Minimum Segments:**

<u>Parameter</u>	<u>Segment Limit Per Direction</u>
Surface Distress (one or more types)	
Transverse Cracking	(2) 160 meter segments
Longitudinal Cracking	(4) 160 meter segments
Raveling	(4) 160 meter segments
Delamination	(2) 160 meter segments
Flushing	(2) 160 meter segments
Rutting	(1) 160 meter segment

The segment limits apply separately to each direction of the pavement surface. For all parameters except rutting, the 160 meter segments do not have to be contiguous to be counted toward the segment limit. Rutting must exist

continually for a 160 meter segment. The starting point for the segments shall be consistent for every year that the pavement is monitored.

Any pavement surface corrective action taken to correct deficiencies with any condition parameter shall be placed full-width across the driving lane, except for diamond grinding and transverse crack sealing. Only asphalt or a similar material shall be used for pavement patching.

At the end of the warranty period the warranty bond will only be released after corrective actions, necessary to meet the threshold limits, have been completed.

**Situations Affecting Warranty.** - During the warranty period, the contractor will not be held responsible for pavement distresses that are caused by factors not related to materials and workmanship. These include, but are not limited to: chemical and fuel spills, vehicle fires, snow plows, other Department maintenance activities, and testing such as coring. Other factors considered to be beyond the control of the contractor which may contribute to pavement distress will be considered by the Engineer on a case by case basis upon receipt of a written request from the contractor.

#### **8.0 Corrective Actions (Suggested).**

The following corrective actions are suggested for various warranty items. The contractor may use these recommended methods or propose an alternate method for Department approval.

<b><u>Warranty Item</u></b>	<b><u>Recommended Action</u></b>
Transverse Crack	Cut & Seal
Longitudinal Crack	Cut & Seal
Rutting	Microsurface
Delamination	Mill & Resurface
Raveling	Mill & Resurface
Flushing	Mill & Resurface

#### **9.0 Measurement and Payment.**

All contractor costs associated with the performance of this special provision, including but not limited to, maintaining traffic, corrective treatments with associated work, materials, and engineering will not be paid for separately. All costs associated with providing the required warranty bond, documentation and conflict resolution team members will be considered as included in the items of work covered by the warranty as detailed in Section 3.0 of this special provision. In addition, the contractor shall make all measurements involving the determination of final quantities for the items of work covered by the warranty and payments subject to verification by the Michigan Department of Transportation.

# INITIAL ACCEPTANCE FOR PAVEMENT WARRANTY

**CONTRACTOR ADDRESS:**

**IDENTIFY EACH JOB NUMBER, LOCATION AND WORK SEPARATELY**

[illegible]

**INITIAL ACCEPTANCE OF WARRANTY WORK APPROVAL**

**CONTRACTOR'S SIGNATURE:**

**ENGINEER'S SIGNATURE:**

**ACCEPTANCE DATE:**

cc: Surety Company, Financial Services - Payments

# **Concrete Warranty Information**

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**CONCRETE WHITETOPPING WARRANTY ON M-46**

DES:SCB

1 of 11 12-16-98

C&T:APPR:MF:JTL 12-16-98

**1.0 General.**

This special provision describes a materials and workmanship warranty. This warranty applies to the concrete whitetopping from Goetze Road to the west village limits of Port Sanilac.

The pavement surface, as addressed by this special provision, includes the concrete driving lanes and concrete shoulders.

The warranty documents shall include the warranty form, initial acceptance form, warranty bond form along with this special provision.

This Special Provision shall not be construed as extending or otherwise affecting the claim process and statute of limitation applicable to the contract.

This Special Provision references the 1996 Standard Specifications for Construction.

**2.0 Warranty Bond.**

**Warranty Bond.** - The security, furnished by the contractor and the contractor's surety, guarantees that the concrete pavement installed under the contract will be free of defects in materials and/or workmanship during the specified warranty period.

The warranty bond shall be a single term three (3) year warranty bond with an effective starting date of the Acceptance Date of Construction.

The contractor shall furnish a warranty bond for a period of three (3) years per above conditions in an amount equal to 25 percent of the contract value of the items listed below. The warranty period shall be three (3) years.

<u>Pay Item</u>	<u>Pay Unit</u>
Concrete Furnishing	cubic meter
Fiber Concrete Furnishing	cubic meter
Concrete Whitetopping - Placing, Finishing, and Curing	square meter
Concrete Whitetopping - Misc, Placing, Finishing, and Curing	square meter
Concrete Whitetopping - Shoulder, Placing, Finishing, and Curing	square meter
Joint, Contraction, C3p - Modified	meter
Joint, Expansion, E3 - Modified	meter
Joint, External Longitudinal Edge of Pavement, Modified	meter



### **3.0 Rights and Responsibilities of the Department.**

#### **The Department:**

- a.** is responsible for monitoring the pavement, defined above in Section 1.0 during the warranty period and will provide the contractor copies of all written reports of the observed condition as it relates to the warranty requirements.
- b.** is responsible for notifying the contractor, in writing, of any required corrective action as specified by the warranty.
- c.** reserves the right to approve the date(s) requested by the contractor to perform corrective action as specified by the warranty.
- d.** reserves the right to approve all materials and methods used in the corrective action as specified by the warranty.
- e.** reserves the right to determine if corrective action performed by the contractor meets Department specifications.
- f.** reserves the right to perform, or have performed, routine maintenance during the warranty period. Any such routine maintenance will not relieve the contractor from meeting the warranty requirements of this Special Provision.
- g.** reserves the right, if the contractor is unable, to make immediate emergency repairs to the pavement to prevent an unsafe road condition as determined by the Department. The department will attempt to notify the contractor that action is required to address an unsafe condition. However, should the contractor be unable to comply with this requirement, to the Department's satisfaction and within the time frame required by the Department, the Department will perform, or have performed any emergency repairs deemed necessary. Any such emergency repairs undertaken will not relieve the contractor from meeting the warranty requirements of this Special Provision. Any costs associated with the emergency repairs will be paid by the contractor if it is determined the cause was from defective materials and/or workmanship.
- h.** shall document the condition of the pavement prior to emergency repairs.
- i.** is responsible for notifying the contractor, in writing, of any required joint field investigation that may result in corrective action.

### **4.0 Responsibilities of the Contractor.**

#### **The Contractor:**

- a.** shall unconditionally warrant to the Department that the pavement shall be free of defects in materials and workmanship, as defined by the warranty requirements as set forth in this special provision, for the specified warranty period. This warranty and the Warranty Bond, shall be on forms furnished by the Department. These completed forms shall be submitted to the Department prior to award of contract.
- b.** is responsible for performing all corrective action; including but not limited to traffic control and restoring all associated pavement features, such as pavement marking, shoulders, and adjacent lanes, at no additional cost to the Department.
- c.** is responsible for replacing all temporary repairs, with Department approved materials and methods, resulting from the pavement being in noncompliance with the warranty requirements.
- d.** shall notify the Department and shall submit a written course of action proposing appropriate corrective measures for five (5) calendar days prior to commencement of any corrective action, unless this work requires immediate emergency repairs as determined by the Department.
- e.** shall maintain traffic, for corrective action, as approved by the Department.
- f.** shall complete all corrective action in a neat and uniform manner and shall meet the requirements specified in the contract.

- g.** is required to supply to the Department original documentation pursuant to subsection 107.10 of the 1996 Standard Specifications for Construction that all insurance required by the contract is in effect during the period(s) that any warranty work is being performed.
- h.** shall furnish to the Department, in addition to the regular performance and lien bond for the contract, supplemental performance and lien bonds covering any corrective action being performed. These supplemental bonds shall be furnished to the Engineer, using Department approved forms, prior to beginning any corrective action in the amount required by the Department to cover said corrective action and be in all respects satisfactory and acceptable to the Department.
- i.** shall make repairs to the pavement prior to conclusion of the warranty period or within such other time frame as agreed to by the Department and the contractor after receiving notification from the Department that required corrective action is necessary, unless the Department notifies the contractor that immediate emergency repairs are necessary to prevent an unsafe road condition, in which event the contractor shall make said emergency repairs within a time frame required by the Department.
- j.** is responsible for all costs of all emergency repairs to the pavement deemed necessary by the Department to prevent an unsafe road condition.
- k.** shall be liable during the warranty period in the same manner as the contractor is currently liable for construction related activities with the Department pursuant to the Department's 1996 Standard Specifications for Construction, including but not limited to subsections 103.06, 107.10 and 107.11 of said Standard Specifications. This liability shall arise and continue only during the period when the contractor is performing corrective action associated with the warranty. This liability is in addition to the contractor performing and/or paying for any of the required corrective action, and shall include liability for injuries and/or damages and any expenses resulting therefrom which are not attributable to normal wear and tear of traffic and weather, but which are due to defective materials, faulty workmanship, and to the operations of the contractor as set forth more fully in subsections 103.06, 107.10, and 107.11 of the 1996 Standard Specifications for Construction.

## **5.0 Initial Acceptance.**

**Acceptance Date of Construction.** - The date when the pavement surfaces described in Section 1.0 are completely constructed, accepted for traffic, and determined by the Department to be in compliance with the contract plans and specifications. This date will constitute initial acceptance and will be the start date for the warranty period. Generally, that portion of the proposed full-width or part-width roadway that fulfills the Accepted For Traffic criteria per Section 107.21 will qualify on this start date. Initial acceptance may occur on different dates for different parts of the pavement depending on varying acceptance for traffic dates or stage construction sequences as applicable to the maintaining traffic requirements for this contract.

For projects staged with future open to traffic dates on adjacent projects that are not a part of this contract, the acceptance date of construction will be the date that the pavement surfaces described in Section 1.0 are available for traffic as determined by the Engineer.

At the completion of each portion of the roadway qualifying for acceptance for traffic, the Department and contractor shall review the completed portion for compliance with the contract plans and specifications. If the completed portion is determined by the Department to be in noncompliance, then the contractor shall repair and make good, at his own expense, any and all defects in materials or workmanship. When the completed portion is determined by the Department to be in compliance, the Department and the contractor shall document and execute the initial acceptance on a form furnished by the Department. The date on which this document is executed is the Acceptance Date of Construction. The Department will send a copy of this initial acceptance document to the contractor's Warranty Bond surety agent.

## 6.0 Conflict Resolution Team.

**Conflict Resolution Team (CRT).** - Shall be solely responsible for resolving disputes between the Department and the contractor regarding any noncompliance during the warranty period. The CRT will render a decision based on a majority vote.

The CRT will consist of five members:

- a. Two-selected, provided, and compensated by the Department.
- b. Two-selected, provided, and compensated by the contractor.
- c. One (third party) mutually selected by the Department and the contractor. Compensation and expenses for the third party member will be equally shared by the Department and the contractor.

Changes in the membership of the CRT will be allowed subject to approval by the Department and the contractor.

## 7.0 Warranty Requirements

The contractor will warranty the pavement against defects in materials and/or workmanship. Two pavement condition parameters, surface distress and joint sealant integrity, will be monitored by the department to determine whether warranty action may be required.

Corrective action will be required when all three criteria listed below are met.

1. The specified threshold limit for a condition parameter is exceeded.
2. The specified number of slabs are exceeded (surface distress only).
3. A joint field investigation by the department and the contractor determines that the pavement condition parameter has been caused by defects in materials and/or workmanship. A forensic investigation, if necessary, may consist of pavement removal, reviewing initial project records, extensive pavement coring and/or laboratory analysis to determine the specific cause(s) and deterioration rates for the distress. The selection of the party to do a forensic investigation will be agreed to jointly by the Department and the contractor. All costs related to the forensic investigation will be shared proportionately, based on cause of condition, between the contractor and the Department. Any corrective action will also be shared proportionately, based on cause of condition, between the contractor and the Department.

### **Threshold Limits and Number of Slabs**

**a. Surface Distress.** - Surface distresses to be measured are spalling and cracking. Threshold limits are based on a pavement slab. A slab is defined as the area of the concrete pavement that includes the concrete driving lane and adjacent concrete shoulder between two successive transverse joints (approximately 3 meters).

Spalling - Spalling is defined as cracking, breaking, chipping, or fraying along the slab edge.

The threshold limit for spalling is 0.3m/edge, transversely, and 0.1m/edge, longitudinally. Non-contiguous areas along an edge will be totaled against the threshold limit.

Cracking - Cracking is defined as a fissure or discontinuity in the slab surface not necessarily extending the entire thickness of the slab. Cracking may consist of single or multiple cracks originating and

ending at a slab edge, or 'map- cracking' which forms interconnecting pieces with random orientation. 'Map- cracking' is readily visible if the surface is drying after wetting, without free water being present. Surface scaling or spalling (non-contiguous with a joint) will be considered as map-cracking in determining threshold limits. Scaling is defined as deterioration of the slab surface between 3 mm and 13 mm in depth. Surface spalling is similar deterioration that exceeds 13 mm in depth.

The threshold limit for cracking per slab is any one of the following three criteria:

- (1) The slab is visibly broken into two or more pieces, with the smaller piece exceeding 0.2 square meters.
- (2) No map cracking is present during the warranty period.
- (3) Scaling or spalling, when combined, must be less than 0.2 square meters, including all non-contiguous areas.

A maximum limit of fifty slabs, exceeding any of the distress threshold values, will be allowed. The slab limit is applies separately to each direction of the pavement surface. The slabs do not have to be contiguous to be included in the limit.

**b. Joint Sealant Integrity.** - Failure of sealant integrity is defined as a loss of sealant integrity caused by adhesive failure (debonding) and/or cohesive failure (material splitting), or a completely missing seal. The threshold limit for joint sealant integrity is based on the percent of sealant failure.

<u>Year</u>	<u>Percentage</u>
1	5.0
3	7.5

Any pavement surface corrective action taken to correct deficiencies with either condition parameter shall be placed full-width across the driving lane, except for diamond grinding, joint resealing (hot-poured only), and spall repair. Only concrete or a similar material shall be used for pavement patching. Asphalt patching may be used only as a temporary repair until a permanent material repair is made. Joint resealing must utilize the same material already present in the joint.

At the end of the warranty period the warranty bond will only be released after corrective actions have been completed.

**Situations Affecting Warranty.** - During the warranty period, the contractor will not be held responsible for pavement distresses that are caused by factors not related to materials and workmanship. These include, but are not limited to: chemical and fuel spills, vehicle fires, snow plows, other Department maintenance activities, and testing such as coring. Other factors considered to be beyond the control of the contractor which may contribute to pavement distress will be considered by the Engineer on a case by case basis upon receipt of a written request from the contractor.

## **8.0 Corrective Actions (Suggested).**

The following corrective actions are suggested for various warranty items. The contractor may use these recommended methods or propose an alternate method for Department approval.

<u>Warranty Item</u>	<u>Severity</u>	<u>Recommended Action</u>
Transverse Cracks	One per slab	Seal with Hot Poured Rubber

Transverse Cracks	> One per slab	Remove & Replace Slab
Longitudinal Cracks *	Two or less per slab	Seal With Hot Poured Rubber
Longitudinal Cracks *	> Two per slab	Remove & Replace Slab
Joint Sealant Integrity	All cases	Remove and replace seal material
Spalling and Scaling	All cases	Surface Repair
Map Cracking	<1/3 depth of slab	Surface Seal
Map Cracking	>1/3 depth of slab	Remove & Replace Slab

\*Corrective action for longitudinal cracks is dependent on cause; i.e., late sawing or structural as applied to the pavement section support mechanism. Removal and replacement is dependent on a cost analysis and the service life of an alternate repair.

Note: All full depth cracks will require replacement of the driving lane, shoulder or both depending on crack location.

## 9.0 Measurement and Payment.

All contractor costs associated with the performance of this special provision, including but not limited to, maintaining traffic, corrective treatments with associated work, materials, and engineering will not be paid for separately. All costs associated with providing the required warranty bond, documentation and conflict resolution team members will be considered as included in the items of work covered by the warranty as detailed in Section 3.0 of this special provision. In addition, the contractor shall make all measurements involving the determination of final quantities for the items of work covered by the warranty and payments subject to verification by the Michigan Department of Transportation.

**MICHIGAN DEPARTMENT OF TRANSPORTATION****INITIAL ACCEPTANCE  
FOR  
PAVEMENT WARRANTY****CONTRACT ID:****CONTRACT SECTION:** \_\_\_\_\_ **JOB NUMBER:****SURETY NAME:****SURETY ADDRESS:****CONTRACTOR NAME:****CONTRACTOR ADDRESS:*****IDENTIFY EACH JOB NUMBER, LOCATION AND WORK SEPARATELY***

<b>JOB NUMBER</b>	<b>ROUTE NUMBER</b>	<b>CONTROL SECTION</b>	<b>WORK TYPE</b>	<b>DATE ACCEPTED</b>	<b>PROJECT ENGINEER</b>

**INITIAL ACCEPTANCE OF WARRANTY WORK APPROVAL****CONTRACTOR'S SIGNATURE:****ENGINEER'S SIGNATURE:****ACCEPTANCE DATE:**

cc: Surety Company, Financial Services - Payments

**Michigan Department of Transportation****WARRANTY  
FOR**

(TYPE OF WORK)

**THIS WARRANTY, made by** \_\_\_\_\_  
(CONTRACTOR)of \_\_\_\_\_ hereinafter called "WARRANTOR",  
(ADDRESS)

in favor of the MICHIGAN DEPARTMENT OF TRANSPORTATION, hereinafter called "DEPARTMENT":

**WITNESSETH:****RECITAL:**

Under the provision of Contract ID \_\_\_\_\_, pertaining in part to \_\_\_\_\_ (type of work) work entered into by the WARRANTOR and the DEPARTMENT. The WARRANTOR is required to furnish the DEPARTMENT a written warranty for the \_\_\_\_\_ (type of work) warranting against defect as stated in the said contract for a period(s) of \_\_\_\_\_ years from the date(s) of the Acceptance Date of Construction by the DEPARTMENT, of the WARRANTOR'S work under said contract.

**NOW, THEREFORE**, in consideration of the foregoing, the WARRANTOR hereby agrees and warrants that in every case in which any defect, as described in Contract ID \_\_\_\_\_, occurs within said year period(s), the WARRANTOR forthwith upon receipt of written notice of such defect, repair said defective area.

It is expressly understood and agreed that the warranty and obligations herein set forth are made and undertaken by the WARRANTOR for the benefit of the DEPARTMENT.

**IN WITNESS WHEREOF**, the WARRANTOR have set his/her hands as of the

\_\_\_\_\_ date of \_\_\_\_\_, 19 \_\_\_\_.

(Contractor)

By:

Title:

**MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS  
WARRANTY BOND**

Item #

Bond Number \_\_\_\_\_



KNOWN ALL MEN BY THESE PRESENTS:

That we, Contractor Name (hereinafter called the "Principal"), and \_\_\_\_\_, a corporation duly organized under the laws of the State of \_\_\_\_\_ and duly licensed to transact business in the State of Michigan (hereinafter called "Surety"), are held and firmly bound unto the Michigan Department of Transportation (hereinafter called the "Obligee"), in the sum of \_\_\_\_\_ Dollars, for the payment of which sum well and truly to be made, we, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has heretofore entered into a contract with the Michigan Department of Transportation dated \_\_\_\_\_ under Contract ID \_\_\_\_\_ and;

WHEREAS, the said Principal is required to guarantee the Type of Bonds installed under said contract, against defects in materials or workmanship which may develop during the period(s) of # of years years beginning the date(s) of the Acceptance Date of Construction by the Obligee.

In no event shall losses paid under this bond aggregate more than the amount of the bond.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal shall faithfully carry out and perform the said guarantee, and shall, on due notice, repair and make good at its own expense any and all defects in materials or workmanship in the said work which may develop during the period specified above or shall pay over, make good and reimburse to the said Obligee all loss and damage which said Obligee may sustain by reason of failure or default of said Principal so to do, then this obligation shall be null and void; otherwise shall remain in full force and effect.

PROVIDED HOWEVER, that in the event of any default on the part of said Principal, a written statement of the particular facts showing such default and the date thereof shall be delivered to the Surety by registered mail, promptly in any event within ten (10) days after the Obligee or his representative shall learn of such default and that no claim, suit or action by reason of any default of the Principal shall be brought hereunder after the expiration of thirty (30) days from the end of the warranty period as herein set forth.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Contractor

**Contractor Name**

\_\_\_\_\_ a Corporation

By

Surety

By

\_\_\_\_\_  
Attorney-In-Fact

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**CONTRACTOR QUALITY CONTROL (CQC) FOR  
PAVEMENT WARRANTY**

C&T:KJH

1 of 3

12-15-98

C&T:APPR:JTL:MF 12-15-98

**1. Introduction**

Except as modified herein, this work shall be in accordance with the 1996 Standard Specifications for Construction, Special Provisions, Supplemental Specifications and other documents referenced in this special provision. The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with current Department procedures contained in, but not limited to, the Michigan Construction Manual and the MDOT Quality Assurance Procedures Manual. The quality control system shall detail plans, procedures, and organization necessary to produce an end product that complies with the contract requirements. The system shall cover all warranty related construction operations under the control of the Contractor both on-site and off-site.

**2. Contractor Quality Control Plan**

Contractor Quality Control (CQC) shall be the means by which the Contractor ensures that the warranty related construction, including that done by subcontractors, fabricators, and suppliers, complies with the requirements of the contract. This applies only to those warrantied items within this contract. The controls shall be adequate to cover all construction operations, including both on-site and off-site, and will be keyed to the proposed construction sequence.

The Engineer shall be allowed access to all work in progress and all phases of the ongoing CQC plan for the purpose of Assurance review and testing. Assurance reviews and testing will be used for the purpose of making independent checks on the reliability of the Contractor's testing and acceptance procedures in accordance with the CQC plan and not for determining the quality and acceptability of the materials and workmanship directly.

The CQC plan shall include, as a minimum, the following to cover on-site and off-site aspects of all construction operations under the control of the Contractor.

1. **CQC System Manager (CQCSM).**-The CQC plan shall identify one person as the CQCSM who shall be the sole contact with MDOT regarding quality control. The CQCSM shall be responsible for quality

control on all construction phases of the project. The CQCSM must be on site during the active portion of the contract involving the warranty related items.

2. **Construction & Warranty.**-The Construction and Warranty portion of the CQC plan shall contain a listing of the procedures and records to be used to properly inspect and test the project in accordance with the contract. The construction portion of the CQC plan shall include, as a minimum, the following:

- A) A list of work items covered by the warranty to be tested.
- B) A list of standard test procedures (ASTM, AASHTO or MDOT).
- C) Frequency of test.
- D) Quantity represented by test and location of item on the project.
- E) Method used to document that items have been tested and/or constructed to conform to project plans and specifications.
- F) Procedure for handling any detected noncompliance with the CQC requirement.
- G) Time frame for distribution of test results and project documentation.
- H) Name and address of the testing facility(s) to be used.

3. **Approval of CQC Plan.**-Acceptance of the Contractor's CQC plan is required prior to start of the work items covered by the warranty. The Department will have five work days to review the Contractor's CQC Plan to determine acceptability. The start of the construction of the items of work covered by the warranty will not be allowed until the CQC Plan is accepted in writing by the Engineer. Delays due to the Contractor's inability to submit an acceptable CQC Plan shall not be a basis for an extension of time without liquidated damages.

4. **Changing the CQC Plan.**- If the Department determines after final approval of the CQC plan that the Contractor's performance on the project is unsatisfactory, the Department reserves the right to require the Contractor to make changes in its CQC plan at no additional cost to the department. The Contractor may be required to suspend all work operations until the plan is changed and approved.

After final approval of the CQC plan, the Contractor can not change the plan without prior written approval of the Engineer. Any requested changes must be done in writing.

## 5. **Measurement and Payment**

Contractor Quality Control, as specified in this Special Provision, will be included in the cost of the project.

**WARRANTY  
FOR**

(TYPE OF WORK)

**THIS WARRANTY, made by** \_\_\_\_\_  
(CONTRACTOR)

of \_\_\_\_\_ hereinafter called  
"WARRANTOR",  
(ADDRESS)

in favor of the MICHIGAN DEPARTMENT OF TRANSPORTATION, hereinafter called  
"DEPARTMENT":

**WITNESSETH:**

**RECITAL:**

Under the provision of Contract ID \_\_\_\_\_, pertaining in part to \_\_\_\_ (type of work) \_\_\_\_\_ work entered into by the WARRANTOR and the DEPARTMENT. The WARRANTOR is required to furnish the DEPARTMENT a written warranty for the \_\_\_\_ (type of work) \_\_\_\_\_ warranting against defect as stated in the said contract for a period(s) of years from the date(s) of the Acceptance Date of Construction by the DEPARTMENT, of the WARRANTOR'S work under said contract.

**NOW, THEREFORE**, in consideration of the foregoing, the WARRANTOR hereby agrees and warrants that in every case in which any defect, as described in Contract ID \_\_\_\_\_, occurs within said \_\_\_\_\_ year period(s), the WARRANTOR forthwith upon receipt of written notice of such defect, repair said defective area.

It is expressly understood and agreed that the warranty and obligations herein set forth are made and undertaken by the WARRANTOR for the benefit of the DEPARTMENT.

**IN WITNESS WHEREOF**, the WARRANTOR have set his/her hands as of the

\_\_\_\_\_ date of \_\_\_\_\_, 19 \_\_\_\_.

(Contractor)

By:  
Title:

**MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF HIGHWAYS  
WARRANTY BOND**

Bond Number \_\_\_\_\_

KNOWN ALL MEN BY THESE PRESENTS:

That we, Contractor Name (hereinafter called the "Principal"), and  
\_\_\_\_\_, a corporation duly organized under the laws  
of the State of \_\_\_\_\_ and duly licensed to transact business in the State of Michigan  
(hereinafter called "Surety"), are held and firmly bound unto the Michigan Department of Transportation  
(hereinafter called the "Obligee"), in the sum of \_\_\_\_\_ Dollars, for the payment of which sum well  
and truly to be made, we, the said Principal and the said Surety, bind ourselves, our heirs, executors,  
administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has heretofore entered into a contract with the Michigan Department of  
Transportation dated \_\_\_\_\_ under Contract ID \_\_\_\_\_ and;

WHEREAS, the said Principal is required to guarantee the Type of Bonds installed under said contract,  
against defects in materials or workmanship which may develop during the period(s) of # of years years  
beginning the date(s) of the Acceptance Date of Construction by the Obligee.

In no event shall losses paid under this bond aggregate more than the amount of the bond.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal shall  
faithfully carry out and perform the said guarantee, and shall, on due notice, repair and make good at its own  
expense any and all defects in materials or workmanship in the said work which may develop during the  
period specified above or shall pay over, make good and reimburse to the said Obligee all loss and damage  
which said Obligee may sustain by reason of failure or default of said Principal so to do, then this obligation  
shall be null and void; otherwise shall remain in full force and effect.

PROVIDED HOWEVER, that in the event of any default on the part of said Principal, a written statement of  
the particular facts showing such default and the date thereof shall be delivered to the Surety by registered  
mail, promptly in any event within ten (10) days after the Obligee or his representative shall learn of such  
default and that no claim, suit or action by reason of any default of the Principal shall be brought hereunder  
after the expiration of thirty (30) days from the end of the warranty period as herein set forth.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Contractor **Contractor Name**

a Corporation  
By

Surety

By

Attorney-In-Fact

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**DOCUMENTATION OF CONCRETE CONSTRUCTION ITEMS**

C&T:JTL

1 of 2

07-23-01

C&T:APPR:SB:DS:08-01-01

**a. Description.-**This special provision outlines the documentation that will be required from the Contractor to fulfill the contract requirements. This documentation is in addition to the requirements for the Contractor's Quality Control plan outlined within this proposal.

**b. Materials.-**None.

**c. Documentation.-**

1. The Contractor will be responsible for keeping a project log that defines each location, where construction relating to the warranted concrete pay items were constructed on the project, in descriptive commentary and/or standard stationing. A copy of the log is to be turned over to the Engineer. The general content and format of the project log must be acceptable to the Engineer prior to initial acceptance of the work.
2. In addition, the contractor shall provide the Engineer a daily report that includes the following information:
  - Control Section, Project Number, County, Route, Resident Engineer.
  - Date, Air Temperature, Weather (a.m., p.m.).
  - Beginning and Ending Stations for the Day.
  - Length (m), Width, (m), Area (m<sup>2</sup>), cubic meters of Concrete Placed (this quantity shall also be broken down into its separate contract pay items with code numbers)
  - Any unique or different situations on the project.
  - Contractor's signature.
  - Fully completed Concrete Proportioning Plant Report (form 1174M) or its equivalent submitted at least once per day and with every change of mix design.
  - Fully completed Inspector's Report of Concrete Placed (form 1174A-M) or its equivalent submitted at least once per day and with every change of mix design.



- Fully completed Report of Modulus of Rupture (form 1160A) or its equivalent submitted for all beams required to document open to traffic strengths.

**d. Prepaving On-Site Meeting.**-A prepaving meeting between the Contractor and the Engineer will be held prior to beginning work. The agenda for this meeting will include:

1. Review of the Contractor's detailed work schedule.
2. Review of the CQC plan.
3. Review of the Contractor's Daily Report and associated documentation and submittal to project office.

**e. Traffic Control.**-Traffic control shall be in accordance with the specifications and special provisions in this contract.

**f. Measurement and Payment.**-There will be no payment for documentation. It is considered to be included in other items of contract work.

# Typical Cross-Sections

